

ABSTRACT OF THE DISCLOSURE

Adapting to load currents which differ by more than 100 times between a scanning mode and a hold mode, a frequency of pump operation is decided according to the maximum value of the load currents, and circuit elements of a power supply, for example, such as capacitance of a capacitor for pump operation or a smoothing capacitor, element configurations of switching elements, or capacitance or resistance value of a CR oscillator are set based on this frequency, so that a load current detector lowers the frequency of the pump operation under light load to reduce a self-loss of power in the power supply. This realizes a charge-pump power supply which is installed in a liquid crystal display device of a terminal device of a portable phone, with reduced power consumption under light load and a longer standby time.

09924698-0808071